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ABSTRACT

The Individualized Vocabulary Instruction (IVI) program is a self-contained, individualized computer program that has been used to provide vocabulary instruction to disabled students at California's Los Angeles Pierce College (LAPC) since 1987. The IVI program is divided into two main word groups, called modules, with each module containing 1,125 words. The program performs pre- and post-testing of students, provides instruction, presents students with abundant opportunities for practice and repetition, administers regular tests, and controls and monitors student progress. The only staff member required is a facilitator who also monitors student progress, drops students from the computer as necessary, and moves students to new modules upon completion. The modules are divided into "chapters" of 15 words, with each chapter further divided into the following 4 lessons: (1) learning the meanings of the words in the chapter; (2) learning to spell each word associated with its meaning; (3) a practice quiz; and (4) a review of previous chapters. Students must complete all four lessons in a chapter before taking the chapter test. Upon completion of all the chapter tests, a final exam is administered. The IVI program has proven to be an effective method of teaching vocabulary and improving students' learning skills at LAPC. (TGI)

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Individualized Vocabulary Instruction On The Computer

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INDIVIDUALIZED VOCABULARY INSTRUCTION ON THE COMPUTER

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Individualized Vocabulary Instruction (IVI) is an IBM or IBM compatible computer program that is unique among all other computer vocabulary programs. The two primary features that make the IVI program special are: 1) the use of a pretest which individualizes instruction, and 2) the ability to function almost totally independent of outside supervision.

The IVI program is divided into two main word groups called modules*. A staff member places a student into one of these modules, and the program then administers a pretest within that module. In the pretest, the program shows words from the module, and the student indicates 225 words that he/she does not know. When the program counts 225 words the student has indicated that he/she does not know, the pretest stops. The IVI program divides these 225 words into 15 "chapters" of 15 words each, and prints a personalized list of these chapters for the student. This list becomes a home study reference for the student. Use of the pretest individualizes instruction by insuring that students do not have to waste time studying words that they already know.

The IVI program is designed to operate independently of constant supervision. Everything that needs to be done to provide all aspects of instruction--from the pretests, to opportunities for practice and review in each chapter, to administering chapter tests, to a final exam--is totally self

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* Each of the modules contains 1,125 words (2,250 words total). The words in the first module range from the fourth to eighth grade levels, and the words in the second module range from the eighth to college grade levels. There are also three special smaller modules: MULTI-MEANING words (e.g., BRAVE, RUN), and two modules containing IDIOMS (225 words in each of the three modules; 675 words total)

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contained with almost no outside supervision required. To overcome any problems that may arise as a result of this independence, the IVI program also records student test data for monitoring student progress, and keeps a cumulative record of the amount of time each student spends learning the words. The program also offers management options including: reprinting pretest results, dropping one or more students, and communicating issues or problems to any student on the computer. In this latter option, students must summon a staff member to acknowledge a message left by the staff member.

After a student finishes the practice work on each chapter, the IVI program administers a chapter test that contains all 15 words from that chapter AND words from prior chapters. Each test requires a minimum score of 70% or more to pass. If a student does not pass, he/she can retake the test at a later time. At the end of each test, students are shown their chapter test score, cumulative score, and the words they missed. The IVI program has been used at Pierce since 1986, and during that time, student chapter test scores have averaged about 85% correct.

After a student completes all his/her chapters, the IVI program randomly chooses 100 words from the student's chapters, and prints these words as a final exam. The student **writes** the definitions, and gives the final to the staff member for scoring. If the student passes, he/she returns to the IVI program which gives the student the next pretest in the same module beginning at the point the student stopped in the last pretest. The unknown words from this second pretest are printed for the student, and the learning process resumes. Most students need two or three of these cycles to complete a module.

The IVI program requires an IBM/IBM compatible computer with a hard drive. The computer can be either older or newer. The IVI program can be used with disabled and non-disabled students alike. The IVI program also has an option of using the DECTalk speech synthesizer to vocalize the words, definitions, and sentences.

The cost of the IVI program is: $50

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INDIVIDUALIZED VOCABULARY INSTRUCTION ON THE COMPUTER

Self-contained IBM/compatible software

(Overview)

INDIVIDUALIZED VOCABULARY INSTRUCTION ON THE COMPUTER

Individualized Vocabulary Instruction on the Computer (IVI) is a computer program that contains all of the elements to conduct a self-contained, ADA-generating class. (The IVI program is also able to function as a supplement to regular classroom instruction). The program individualizes instruction to all disabled and non-disabled students. The IVI program requires an IBM/IBM compatible computer with a hard drive. The program can also use, but does not require a DECTalk speech synthesizer. IVI can be run on old or new computers (8088 processors to Pentium processors).

Since the IVI program is totally self-contained, there is no need for an instructor or a classroom. The only staff member required can be termed a "facilitator". This individual can be an instructor, counselor, or even classified employee. The facilitator: 1) monitors student progress, 2) drops students from the computer as necessary, and 3) upon completion of a module moves a student to a new module. The facilitator may also: 1) decide in which module a student will begin, 2) help students with study techniques and strategies, and 3) give a student a grade if the IVI program was used as a class.

The IVI program performs the following functions: 1) does pre- and post-testing, 2) instructs, 3) provides abundant opportunities for practice and repetition, 4) administers regular tests, and 5) controls and monitors student progress. The IVI program also keeps a cumulative total of the amount of time a student spends working on the lessons. If the DECTalk is used, the IVI program exposes students to all three learning modalities as they learn their words: 1) visual (the computer monitor), 2) auditory (the DECTalk), and 3) tactile (the keyboard).

The IVI program is divided into two modules or groups of words. Each of the modules contains 1,125 words (a total of 2,250 carefully chosen words). Students are placed into one of these modules, and proceed to learn the words from that module.

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The IVI program individualizes instruction through the use of a pretest. This test is administered by the program when a student begins the program. The pretest shows the student one word at a time from the module. For each word, the student indicates if he/she absoluetly knows the meaning, or is not sure/does not know the meaning. After the program counts 225 (or less if the student reaches the end of the module) of the latter, the pretest ends. All the words that the student indicated he/she did not know, are saved into a personalized list of words. These are the first set of words the student will learn in that module. To simplify the job of learning these words, the program divides this list into "chapters" of 15 words (each with its meaning and an example sentence). These chapters are immediately printed by the program for home study by the student.

Each time a student comes in to work, the IVI program automatically transfers the student into the correct module and current chapter, and it identifies which lessons the student has completed. The program also prevents unauthorized student entry into any other module until the student completes the current module.

Each student chapter on the computer is divided into four lessons: 1) learning the meanings of the chapter words, 2) learning to spell each word associated with its meaning, 3) practice quiz, and 4) review of previous chapters. In lesson one, the program breaks the 15 words up into three groups of five words. Those words are first shown, then the student types the meaning from memory. The student retypes any meanings that he/she misses until all meanings have been typed correctly. Students are not able to complete lesson one until they can type the meanings of all fifteen words correctly. Lesson two is the opposite of lesson one. In lesson two, the program shows the meaning and asks the student to type the word associated with it. Lesson three is a practice quiz given on the computer which allws each student to see how he/she will do on the chapter test without recording the score. At the end of the practice quiz, the program shows a score and lists the words that were missed. Students can take the practice quiz as often as necessary before they take the chapter test. Lesson four is a random review of words the student has already learned from prior chapters. This lesson helps to keep the words fresh in a student's mind. All three lessons can be

repeated as often as necessary before a student attempts the chapter test.

Each student chapter has a chapter test given on the computer. A student must complete all four lessons in a chapter before he/she can take the chapter test. Each chapter test (except for the first chapter) consists of the 15 words from that chapter, plus preselected words from prior chapters. Students must score a minimum of 70% on each chapter test to get credit for that chapter, and to proceed to the next chapter. If a student scores below 70%, he/she can return to the lessons section of the IVI program, and retake the chapter test at a later time. The inclusion of prior words in chapter tests, and the 70% minimum score are the primary reasons that students do well on the final, and why they retain these words long after completing the program.

After a student completes all the chapter tests, he/she is ready to take the final exam. For the final exam, the IVI program chooses and prints 100 words at random from the student's list, The student then retires to WRITE the meanings of all 100 words. The final is written to allow for unimportant errors such as leaving out a word or misspelling a word. The facilitator has the option of being as strict or lax as desired. If the student does not pass the final, he/she can retake it. After the final exam, students are ready to take the next pretest in the module. The new pretest begins where the student ended the first pretest.

The amount of time required for students to finish a module is based on several factors: 1) the number of chapters (or words) they need to learn, 2) how quickly they are able to do the work, 3) how much time they spend each week doing the work, and 4) how much time they spend studying at home. For these reasons, there is no predetermined amount of time for a student to complete a module. The facilitator has the option to require that some or all students take the same amount of time to complete a module, or he/she may be more flexible and allow some or all students to take longer to finish a module. Most students will have the full 15 chapters (225 words) to learn after the first (and possibly second) pretest. At a rate of one chapter per week, students will therefore require one semester to finish a group of words.

The IVI program also includes program management components to help the facilitator.

PROGRAM MANAGEMENT The IVI program provides the facilitator with all the tools necessary to monitor vital student data. These tools include the ability to: 1) view student test records, 2) reprint pretest results, 3) drop one or more students, 4) move students into a new module, and 5) put a student on "hold". This latter option temporarily prevents a student from logging onto the program, and is usually the best method for the facilitator to communicate concerns and problems with the students.

The IVI program has been used at Pierce College since 1987. In that year, the Disabled Students Program received approval for the establishment of a new course, Special Education 35 (Vocabulary Enrichment), so that students would receive credit for their work on the IVI program. Special Education 35 is a one-unit course that students may take up to four times.

Since Special Education 35 was established, class enrollment has averaged approximately 80-90 students per semester. Yet despite these numbers, and the wide range of student abilities and knowledge, the IVI program has still provided totally individualized instruction. With IVI, those students have completed their modules with an average score of 96%.

Student retention of the words learned on the IVI program has also proved excellent. Since the inception of Special Education 35, students have been tested for one and two semesters following completion of a module. Even after the second semester following completion of a module, students still knew 85-95% of the words.

The IVI program was designed to go far beyond the teaching of vocabulary without the need for an instructor. IVI is not merely an excellent tool for vocabulary instruction, it is more importantly a vehicle to improve memory techniques and enhance study habits. Each student using Vocabulary Enrichment can be provided with study methods tailor made to that student's preferred learning modality. In short, IVI can not only teach vocabulary, it can also give students a way to improve their learning skills.

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To summarize, each IVI module performs the following functions:

1) Pretests each student to determine which words need to be learned (this individualizes instruction)

2) Divides the words to be learned into "chapters" of 15 words each

3) Provides a printout of the words by chapter so students will have a home study reference

4) Divides each chapter into four lessons (main word to meanings lesson, meaning to word lesson, practice quiz lesson, and a random review lesson of previously-learned words)

5) Provides exposure to the words to be learned in three learning modalities: a) visual (on the monitor), b) auditory (with the DECtalk), c) tactile (on the keyboard)

6) Presents practice for each chapter that involves extensive repetition of the words

7) Keeps a cumulative record of the amount of time each student spends working on the lessons

8) Administers chapter tests that include words from prior chapters (this compels students to continually review the words already learned)

9) Requires a minimum score of 70% on each chapter test to advance students from one chapter to the next

10) Administers a final exam